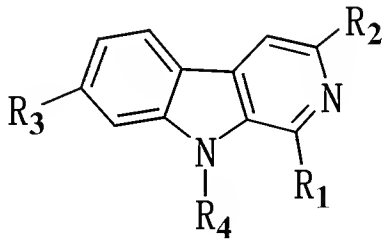
The listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) A compound of the following formula (I)



and its pharmacologically acceptable salts,

wherein

R_1 is selected from the group consisting of hydrogen and linear or branched C_{1-6} alkyl;

R_2 is selected from the group consisting of carboxyl, ester group, carboxylate, acylamino and linear or branched C_{1-6} alkoxycarbonyl;

R_3 is selected from the group consisting of hydrogen, hydroxyl, linear or branched C_{1-6} alkoxy and carboxylic esters, excluding methoxy;

R_4 is selected from the group consisting of C_{6-10} arylalkyl, mono- or multi-substituted C_{6-10} arylalkyl, and wherein the substituents are defined to be halogen, C_{1-4} linear or branched alkyl, C_{1-4} linear or branched alkoxy, nitro, amino, hydroxyl and carboxyl;

and

the following compounds are excluded:

Ethyl 9-benzyl-β-carboline-3-carboxylate,

3-aminocarbonyl-9-benzyl-1-methyl-β-carboline, and

Ethyl 9-benzyl-1-methyl-β-carboline-3-carboxylate.

2. (Canceled)

3. (Previously presented) The compound according to claim 1, characterized in that R_1 is selected from the group consisting of hydrogen, C_{1-4} linear or branched alkyl.

4. (Previously presented) The compound according to claim 3, characterized in that R_1 is selected from the group consisting of hydrogen, C_{1-2} alkyl, phenyl-C_{0-4} linear or branched alkyl.

5. (Previously presented) The compound according to claim 4, characterized in that R_1 is selected from hydrogen, methyl.

6. (Canceled)

7. (Original) The compound according to claim 5, characterized in that R_1 is hydrogen.

8. (Original) The compound according to claim 5, characterized in that R_1 is methyl.

9. (Previously presented) The compound according to claim 1, characterized in that R_2 is selected from the group consisting of carboxylic acid, carboxylic metal salts, C_{1-6} linear or branched alkoxycarbonyl, and when R_2 is a carboxylic metal salt.

10. (Previously presented) The compound according to claim 9, characterized in that R_2 is selected from the group consisting of hydrogen, carboxylic acid, carboxylic metal salts, C_{1-4} linear or branched alkoxycarbonyl and when R_2 is a carboxylic metal salt.

11. (Previously presented) The compound according to claim 10, characterized in that R_2 is selected from the group consisting of hydrogen, carboxylic acid, carboxylic alkali metal salts, C_{1-2} alkoxycarbonyl.

12. (Canceled)

13. (Canceled)

14. (Original) The compound according to claim 12, characterized in that R_2 is carboxylic acid.

15. (Canceled)

16. (Original) The compound according to claim 12, characterized in that R_2 is ethoxycarbonyl.

17. (Previously presented) The compound according to claim 1, characterized in that R_3 is selected from the group consisting of hydrogen, hydroxyl, C_{1-6} linear or branched alkoxy.

18. (Previously presented) The compound according to claim 17, characterized in that R_3 is selected from the group of hydrogen, hydroxyl, and C_{1-4} linear or branched alkoxy.

19. (Currently amended) The compound according to claim 18, characterized in that R_3 is ethoxy ~~selected from the group consisting of hydrogen and C_{1-2} alkoxy~~.

20. (Original) The compound according to claim 19, characterized in that R_3 is hydrogen.

21. (Previously presented) The compound according to claim 1, characterized in that R_4 is selected from the group consisting of C_{6-10} aryl-C_{1-6} linear or branched alkyl, and mono- or multi-substituted C_{6-10} aryl-C_{1-6} linear or branched alkyl.

22. (Previously presented) The compound according to claim 21, characterized in that R_4 is selected from the group consisting C_{6-10} aryl-C_{1-4} linear or branched alkyl, and mono- or multi-substituted C_{6-10} aryl-C_{1-4} linear or branched alkyl.

23. (Previously presented) The compound according to claim 22, characterized in that R_4 is selected from the group consisting of phenyl-C_{1-4} linear or branched alkyl, and mono- or multi-substituted phenyl-(C_{1-4}) linear or branched alkyl.

24. (Currently amended) The compound according to claim 23, characterized in that R_4 is selected from the group consisting of ~~hydrogen,~~ C_{1-4} linear or branched alkyl, phenyl-C_{1-2} alkyl, and mono- or multi-substituted phenyl-C_{1-2} alkyl.

25. (Canceled)

26. (Canceled)

27. (Previously presented) The compound according to claim 1, characterized in that R_4 is benzyl.

28. (Previously presented) The compound according to claim 1, characterized in that R_4 is pentafluorobenzyl.

29. (Canceled)

30. (Canceled

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Canceled)

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)

41. (Canceled)

42. (Canceled)

43. (Previously presented) The compound according to claim 1, characterized in that R_1 is selected from the group consisting of hydrogen, C_{1-6} linear or branched alkyl; R_2 is selected from the group consisting of carboxylic acid group, carboxylates, C_{1-6} linear or branched alkoxycarbonyl; R_3 is selected from the group consisting of hydrogen, hydroxyl, C_{1-6} linear or branched alkoxy; R_4 is selected from the group consisting of C_{6-10} aryl-C_{1-6} linear or branched alkyl, and mono- or multi-substituted C_{6-10} aryl-C_{1-6} linear or branched alkyl.

44. (Previously presented) The compound according to claim 43, characterized in that R_1 is selected from the group consisting of hydrogen, C_{1-4} linear or branched alkyl; R_2 is selected from the group consisting of hydrogen, carboxylic acid group, carboxylic alkali metal salts, C_{1-4} linear or branched alkoxycarbonyl; R_3 is selected from the group consisting of hydrogen, hydroxyl, C_{1-4} linear or branched alkoxy; R_4 is selected from the group consisting of C_{6-10} aryl-C_{1-4} linear or branched alkyl, and mono- or multi-substituted C_{6-10} aryl-C_{1-4} linear or branched alkyl.

45. (Previously presented) The compound according to claim 44, characterized in that R_1 is selected from the group consisting of hydrogen, C_{1-2} alkyl; R_2 is selected from the group consisting of hydrogen, carboxylic acid group, carboxylic alkali metal salts, C_{1-2} alkoxycarbonyl; R_3 is selected from the group consisting of hydrogen, hydroxyl, and C_{1-2} alkoxy; R_4 is selected from the group consisting of phenyl- C_{1-2} alkyl, and mono- or multi-substituted phenyl-C_{1-2} alkyl.

46. (Previously presented) The compound according to claim 45, characterized in that R_1 is selected from the group consisting of hydrogen, methyl; R_2 is selected from the group consisting of carboxylic acid group, sodium or potassium carboxylate, and ethoxycarbonyl; R_3 is selected from the group consisting of hydrogen, hydroxyl, and C_{1-2} alkoxy; R_4 is selected from the group consisting of benzyl, and pentafluorobenzyl.

47. (Previously presented) The compound according to claim 46, wherein R_1 is hydrogen or methyl; R_2 is carboxylic acid group, sodium carboxylate, or ethoxycarbonyl; R_3 is hydrogen; R_4 is benzyl.

48. (Previously presented) The compound according to claim 1, wherein R_1 is hydrogen; R_2 is ethoxycarbonyl; R_3 is hydrogen; R_4 is benzyl.

49. (Previously presented) The compound according to claim 1, wherein R_1 is hydrogen; R_2 is ethoxycarbonyl; R_3 is hydrogen; R_4 is benzyl.

50. (Previously presented) The compound according to claim 1, wherein R_1 is methyl; R_2 is ethoxycarbonyl; R_3 is hydrogen; R_4 is pentafluorobenzyl.

51. (Previously presented) The compound according to claim 1, wherein R_1 is methyl; R_2 is ethoxycarbonyl; R_3 is hydrogen; R_4 is pentafluorobenzyl.

52. (Canceled)

53. (Canceled)

54. (Canceled)

55. (Canceled)

56. (Canceled)

57. (Canceled)

58. (Canceled)

59. (Canceled)

60. (Canceled)

61. (Previously presented) The compound according to claim 1, which is selected from the group consisting of the following compounds or pharmacologically acceptable salts thereof:

Methyl 9-benzyl-β-carboline-3- carboxylate;

Ethyl 9-benzyl-β-carboline-3-carboxylate;

Ethyl 9-(2',3',4',5',6'-pentafluoro)benzyl-β-carboline-3-carboxylate;

Butyl 9-phenylpropyl-β-carboline-3-carboxylate;

Butyl 9-benzyl-β-carboline-3-carboxylate;

Benzyl 9-benzyl-β-carboline-3-carboxylate;

9-Benzyl-3-hydroxymethyl-β-carboline;

9-Benzyl-3-acetyloxomethyl-β-carboline;

3-Carbohydrazide-9-benzyl-β-carboline;

3-[(Ethoxycarbonyl)amino]-9-benzyl-β-carboline;

Ethyl 9-(2',3',4',5',6'-pentafluoro)benzyl-1-methyl-β-carboline-3- carboxylate;

Ethyl 9-phenylpropyl-1-methyl-β-carboline-3-carboxylate;

Ethyl 9-acetophenone-1-methyl-β-carboline-3-carboxylate;

Ethyl 9-benzyl-1-propyl-β-carboline-3-carboxylate;

Ethyl 9-phenylpropyl-1-propyl-β-carboline-3-carboxylate; and

Ethyl 9-phenylpropyl-1-methyl-β-carboline-3-carboxylate.

62. (Original) The compound according to claim 61, the pharmacologically acceptable salt thereof being hydrochloride salt.

63. (Previously presented) The compound according to claim 1, which is selected from the group consisting of the following compounds or pharmacologically acceptable carboxylates thereof:

9-Benzyl-β-carboline-3-carboxylic acid;

9-(2',3',4',5',6'-Pentafluoro)benzyl-β-carboline-3-carboxylic acid;

9-Phenypropyl -β-carboline-3-carboxylic acid;

9-Benzyl-1-methyl-β-carboline-3-carboxylic acid;

9-(2',3',4',5',6'-Pentafluoro)benzyl-1-methyl-β-carboline-3- carboxylic acid;

9-Phenylpropyl-1-methyl-β-carboline-3-carboxylic acid;

9-Benzyl-1-propyl-β-carboline-3-carboxylic acid;

9-Phenylpropyl-1-propyl-β-carboline-3-carboxylic acid.

64. (Original) The compound according to claim 63, wherein the carboxylate is a carboxylic metal salt.

65. (Canceled)

66. (Canceled)

67. (Previously presented) The compound according to claim 64, wherein the metal is Na.

68. (Previously presented) The compound according to claim 64, wherein the metal is K.

69. (Canceled)

70. (Canceled)

71. (Canceled)

72. (Canceled

73. (Canceled)

74. (Canceled)

75. (Canceled)

76. (Previously presented) A pharmaceutical composition for treating tumors, comprising as an active ingredient at least one therapeutically effective amount of a compound of formula I according to claim 1, alone or combined with one or more pharmaceutically acceptable, inert and non-toxic excipients or carriers.

77. (Withdrawn) A method of treating tumors in a mammalian subject, the method comprising administration of a medicament comprising a compound of claim 1.

78. (Withdrawn) The method of claim 77, wherein the tumors refer to alimentary tract tumors, including oral carcinoma, oesophagus cancer, gastric carcinoma, liver cancer and intestinal cancer tumors.

79. (Withdrawn) The method of claim 77, wherein the tumors refer to the lung cancer tumors.

80. (Canceled)

81. (Canceled)

82. (Canceled)

83. (Withdrawn) The method of claim 77, wherein the tumors refer to the cervical carcinoma tumors.

84. (Withdrawn) The method of claim 77, wherein the treatment further comprises phototherapy and radiation therapy for treating tumors.

85. (Previously presented) The compound of claim 1, wherein the compound is selected from the group consisting of ethyl 9-phenylpropyl-1-methyl-β-carboline-3-carboxylate and its pharmacologically acceptable salts.